

REMARKS

Reconsideration of the subject application as amended herein is respectfully requested.

The specification has been amended to correct the filing date of the parent provisional application. The Applicant traverses the Examiner's objection to the specification since the word 'artefact' is an acceptable alternate spelling.

The claims have corrected to overcome the informality noted by the Examiner and to correct a typographical error. In addition the independent claims have been amended to clarify that the stroboscopic effect is provided to improve relative motion perception. The motion perception is relative because it concerns motion of objects with respect to the camera as well of motion of a camera with respect to an object.

The claims have been rejected as being anticipated by the Heimbuch reference. The Applicant respectfully traverses these rejections. As discussed in the specification and clearly defined in the claims, the present invention provides blanking signals in a stream of video signals to a digital projector to induce a stroboscopic effect in a viewer's eyes. The purpose of this effect is to improve the perception of motion. As discussed in the specification, it has been found that this type of effect can be obtained by using one or more blanking signals that have a total duration of about 50% of the frame period of the digital video signal. Moreover, the individual blanking signals may have a duration in the range of 1-10msec. For example, a typical video signal contains 24 frames/second, which translates to a frame period of 41.6msec. For this type of video signals stroboscopic effect can be provided by two blanking signals per frame, each having a duration of about 41.6/4 or 10.4 msec.

Heimbuch discloses an apparatus for generating color images using a color wheel with the three primary colors: red, blue and green. The wheel is used to generate color subframes for each frame. In one embodiment shown in Figs. 5a-5d four to six subframes are generated. The purpose of this process is to present more than one image of a particular color to the eye during a single frame thereby providing a better color blending. To insure color separation between the subframes, a small blanking period is provided, as shown in Figs. 7a, 7b. The duration of these blanking periods is not provided in the specification. In Fig. 7a the total duration of the three blanking periods is about 11.4% of the total frame period. Each blanking period is about 3.8% of the frame duration. At 60 frames/second, the duration of each blanking period is 0.63 msec.

It is respectfully submitted that the reference fails to disclose or even suggest that motion perception can be improved by providing blanking intervals. Hence, this reference is clearly immaterial.

Moreover, as discussed above, in the opinion of the inventor, the stroboscopic effect for improved motion perception has to be at least 1 msec. Moreover, the total blanking period duration should be about 50%. The blanking periods of Fig. 7 b have similar characteristics. Clearly neither of these criteria are met by the Heimbuch reference. Accordingly, it is respectfully submitted that Heimbuch does not suggest the subject invention even implicitly since the blanking signals provided therein are insufficient to generate a stroboscopic effect for movement perception.

Accordingly, it is respectfully submitted that the subject application is patentably distinguishable over the prior art and should be allowed.

The Commissioner is authorized to use Deposit Account No. 07-1730 for any fees that may be required including fees for extensions. This is a continuing request.

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Respectfully submitted,

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SPECIFICATION WITH CHANGES

First paragraph on page 1:

RELATED APPLICATIONS: This application claims priority to provisional application 60/229,462 filed September 1, [2001] 2000 and incorporated herein by reference.



CLAIMS WITH CHANGES

1(Amended). A digital projector comprising:

- an input receiving digital data defining image frames; and
- an optical modulator adapted to generate a series of images corresponding to said digital data, said images being separated by black intervals selected to induce a stroboscopic effect in the eye of a viewer, said stroboscopic effect being selected to improve relative motion perception.

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6 (Amended). A digital projector adapted to generate moving images from a stream of data arranged in digital frames, said projector comprising:

- an input adapted to receive said stream of data;
- a timer adapted to generate blink signals in synchronism with said digital frames, said blink signals being adapted to define a black interval adapted to induce a stroboscopic effect to improve relative motion perception [in a viewer's eye]; and
- an optical image generator adapted to generate a sequence of optical images corresponding to said sequence of digital frames, said optical images being separated by said black intervals.

12 (Amended). A method of generating moving images from data comprising :

- generating blink signals defining black intervals selected to induce a stroboscopic effect in the eyes of a viewer to improve relative motion perception;
- converting said data into images; and
- projecting said images on a screen with said images being separated by said

black intervals.

14 (Amended). The method of claim [11] 12 further comprising defining frames having frame durations that define the rate at which said images are projected.

15 (Amended). The method of claim 14 wherein said black intervals are at least 50% of said frame durations.

16 (Amended). The method of claim [11] 12 wherein said data is partitioned into digital frames, the data of each frame defining a corresponding image, and wherein one black interval is associated with each digital frame.

17(New). The method of claim 12 wherein said blink signals are selected to imitate the blinking of the viewer's eye.